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Interactive Communication System and Method for Controlling the Same

Description

The invention is related to an interactive and/or bi-directional communication system according to the preamble of claim 15 and a method for controlling the same according to the preamble of claim 1.

In interactive communication systems, the user does not play an only passive receptive role, but changes continuously between a sender and receiver role. In contrast to mass communication media of the 20th century, as for example TV- and radio transmissions, the user of a communication terminal in an interactive communication system himself controls duration of the information transmission, the kind and/or amount of information, which he receives.

The possibilities of placing commercial messages for financing the communication systems, therefore, are seriously limited. At present the commercial message has to be placed as a part of the content stream, which is selected by the user, for example as a so-called "banner" in the Internet, however, it needs connection capacities and therefore leads to an annoying waste of time. Furthermore, the effect may not sufficiently develop due to the limitation to a section of the whole reproduction surface ("window") or a part of the reproduction possibilities (only optical or only acoustical). The presentation possibilities are low compared with a fully animated TV-spot. Another crucial disadvantage is, that the placement of the

advertisement message as a part of a content stream depends on the attractivity of said content stream and/or of the provider of said content stream. Moreover, there is the problem of transaction expenditures and the transaction expenses during delivery, editorial processing, integration and billing with said provider. These problems are also present, if the commercial is placed within a fixedly defined window.

It is an object of the invention to provide an interactive and/or bi-directional communication system as well as a method for controlling the same, which overcomes the above-mentioned disadvantages of known communication systems and the respective control methods.

According to the invention, this problem is solved by a method according to claim 1 and a communication system according to claim 15.

According to the invention, in an interactive communication system, at least one first communication terminal and one second communication terminal, preferably arbitrary many first communication terminals and arbitrary many second communication terminals are registered with at least one switch station which is independent of said communication terminals and/or at least one direct connection, preferably arbitrary many successive and/or simultaneous direct connections between different first and second communication terminals are automatically and/or without active control by the user established, maintained and/or disconnected by the switch station and/or thereby data, which are not actively selected by the users, are accessed, transmitted, processed and/or output, wherein the number and/or duration of the connection(s), the data access, the data transfer, -processing and/or -output are controlled by predetermined and/or arbitrarily definable criteria, preferably the duration and/or the amount and/or kind of data.

With the method according to the invention, among others, client modules can, preferably during usage pauses,

successively be directly connected to arbitrary content provider servers and/or content provider servers determinable according to arbitrary criteria and/or so-called "adservers" for transmitting commercials without editorial intermediate steps, for short periods, respectively. Preferably, such connections are established between telephones, preferably mobile telephones, and the content provider servers before use and/or during usage pauses. The method according to the invention allows further to build up such connections between TV-sets and the content provider servers.

Advantageous and preferred embodiments of the method according to the invention according to claim 1 are subject matter of claims 2 to 14. Advantageous and preferred embodiments of the communication system according to the invention are subject matter of claims 15 to 17.

Especially preferred is the method according to claim 4. Herein, the times, in which a first communication terminal of an interactive communication system is not used, are utilized for a transmission and/or an output of data, preferably information, especially preferably commercials.

With the also especially preferred method according to claim 5, the commercial can be interrupted as soon as the first communication terminal is used again.

The preferred methods according to claims 12 and 13 allow an particularly intelligent billing control for data network and/or telephone network usage and/or advantage granting/refunding to the user, the commercial placement and/or the calculation of costs for the initiator of the commercial placement.

In the following, embodiments of the invention are described. The following exemplary list of possible embodiments of the invention is not limiting, rather, the invention can be used in

an advantageous manner for all user purposes in which control methods are used in interactive communication systems.

In a suitable method according to the invention, in an interactive communication system (A) an arbitrary number of first communication terminals (B1a - B1n) and an arbitrary number of second communication terminals (B2a - B2n) are registered with at least one switch station (C), which is independent from said communication terminals, and/or an arbitrary number of successive and/or simultaneous direct connections (D1a - D1n) between different first communication terminals (B1a - B1n) and second communication terminals (B2a - B2n) are established, maintained and/or disconnected automatically and/or without active control by the user by the switch station and/or thereby data, which are not actively selected by the users, are accessed, transmitted, processed and/or output.

Suitable interactive communication systems in terms of the present invention are all communication systems in which a bidirectional connection between at least two communication terminals can be established. The Internet, computer networks, video- and/or multimedia networks, intranets in companies and public institutions are important examples as well as telecommunication systems, telephone, mobile telephone and/or facsimile systems, radio paging and/or radio data systems, TV-systems with control possibilities for the user, for example Pay-TV-systems, Pay-per-view- and/or Video-on-demand-systems and/or -connections.

Bidirectional connections are all systems, arrangements and/or methods for providing and/or transmitting data to communication terminals, wherein by the use of the communication terminals a possibility for controlling the connection and/or for providing and/or transmitting the data is given. Examples are telecommunication connections via satellite, cable and/or radio, intranet- and/or internet-connections via cable and/or radio and/or interactive TV-connections.

Suitable first communication terminals are all devices, which use the connection for providing and/or transmitting data. Examples are transmitters, computers and/or servers with network connections like modems, network cards and/or interfaces suitable for processing of wireless transmitted data, interfaces, ports and/or converters and/or telephone- and/or facsimile devices.

Suitable second communication terminals are all devices, which use the connection for receiving and/or storing, processing and/or outputting data. Examples are computers and/or client modules with network connections like modems, network cards and/or interfaces suitable for processing of wireless transmitted data, interfaces, ports and/or converters, telephone- and/or facsimile devices and/or TV-sets with intercommunication interfaces like for example set top boxes and/or the so-called "D-Box".

Suitable independent switch stations are all devices, which serve for an automated establishment and/or for an automated mediation of a direct connection and/or for an automated forwarding of data between at least two communication terminals. Examples are all kinds of hubs, interfaces, relay stations and/or servers, for example of telecommunication- and/or Internet providers, portals etc.

Suitable data in terms of the present invention are, in contrast to so-called technical and/or control data, such data which are perceptible by human sense organs and/or data which have a context being perceptible for humans, preferably audiovisual information and/or their automatically processable representations. Examples are mute, set, static and/or animated pictures and/or movies, preferably advertisement pictures and/or commercial spots.

In one example for use with the Internet (A), a PC user enters the identification of his client module (B1a) online at the server (C) of a service provider (commercial agent) and,

therewith, registers as a commercial receiver. Advertisers enter the links for their servers (B2a - B2n) at the provider server as well and, therewith, register as commercial senders. If, for example, with the help of a locally applied software, a usage pause is automatically detected at the registered client module (commercial receiver), a connection to the provider server can automatically be established. With the help of an automatic link administration, the provider server mediates the connection directly to an advertisers' server (commercial sender). The PC user sees or hears the commercial spot of the homepage of the first advertisement server (B2a). After a predefined period of time, for example after 1, 10 or 30 seconds, said connection and/or the reproduction of the commercial spot is interrupted and a new connection to a second advertisers' server (B2b) can be established. The number and/or duration of said connections can be controlled by the end of the usage pause at the client module and/or by a predetermined period of time, etc. Arbitrary client modules can be connected simultaneously and/or successively with arbitrary advertisers' servers. The PC user accesses contents, which he cannot actively specify at the time of connection.

In a further embodiment of the method according to the invention, a second operating state (b) is automatically and/or after active and/or passive initiation by the user established on the occurrence of a predefined and/or arbitrarily definable first operating state (a) of a first communication terminal; the first operating state (a) is a predefined and/or arbitrarily definable use of the first communication terminal and/or a part of the first communication terminal for/at a predefined or arbitrarily definable time/period of time and/or a predefined and/or arbitrarily definable decreasing, non- and/or fewly/less varying use and/or usage interruption for/at a predefined or arbitrarily definable time/period of time, preferably the decrease, the decrease in variation and/or the interruption of the reception, the transmission and/or the output of external data and/or their representations

perceptible by the human senses via an existing connection of the first communication terminal to an external data source and/or a further communication terminal, preferably the decrease, the decrease in variation and/or the interruption of an input-, processing-, storing- and/or output procedure at/of the communication terminal, especially preferred the decrease, the decrease in variation and/or the interruption of an action and/or interaction of the user with/at the first communication terminal; especially preferred first operating states (a) are user interactions and/or decreasing, non- and/or less varying and/or interrupted user interactions with the first communication terminal for/at a predefined or arbitrarily definable time/period of time via remote control, keyboard, mouse, joystick, pen, trackball, patchfield, touchscreen, audiovisual recording and/or reproduction media and/or interfaces therefore;

a suitable second operating state (b) is the at least single establishment and/or the maintenance of a communication connection between the first communication terminal and an external data source and/or the at least single, preferably permanent transmission of external data and/or data not actively selected by the user and/or the at least single storage, processing and/or output of such external data by/at the first communication terminal at/for a predefined and/or arbitrarily definable time/period of time, wherein said communication connection, transmission, storage, processing and/or output is established newly and/or instead of and/or additionally to an existing communication connection and/or current transmission, storage, processing and/or output; for example with an interactive TV set having an operating mode in which the viewer switches frequently between different camera perspectives using the remote control, for example during Formula One transmissions on digital TV, a commercial spot is faded in automatically and/or after confirmation by the viewer, which may appear, for example, in a part of the screen if the

viewer does not change the camera selection for a defined period of time; an advertisement facsimile can be transmitted to facsimile devices which were used for a long time and/or in frequent intervals within a certain period of time as soon as a certain time after such a use has passed; in computers which have not been used for a certain period of time an Internet connection is automatically established, commercial pages and/or spots are transmitted and output at the display. Also unused and/or less used parts of the computer, for example loudspeakers and/or parts of the screen can be used for an online-placement of commercials.

In a preferred embodiment, a fourth operating state (d) is established automatically and/or after active and/or passive initiation by the user, if a predefined and/or arbitrarily definable third operating state (c) occurs after the occurrence of the second operating state (b), wherein the third operating state (c) is a predefined and/or arbitrarily definable usage interruption, usage and/or a reuse of the first communication terminal and/or a part of the first communication terminal at/for a predefined or arbitrarily definable time/period of time, an increase of use or an increasingly varying use at/for a predefined or arbitrarily definable time/period of time, preferably of the reception, the transmission and/or the output of external data and/or their representations perceptible by the human sense organs via an existing connection of the first communication terminal to an external data source and/or a further communication terminal and/or the establishment of such a connection, preferably an input-, processing-, storing- and/or output procedure at/of the first communication terminal, very preferably of an action and/or interaction of the user with/at the first communication terminal.

Especially preferred third operating states (c) are user interactions and/or increasing and/or increasingly varying user interactions with the first communication terminal at/for a

predefined and/or arbitrarily definable time/period of time via remote control keyboard, mouse, joystick, pen, track ball, patch field, touch screen, audio/visual recording and/or reproduction media and/or interfaces therefore.

Preferred third operating states (c) are also first operating states (a) and/or second operating states (b) depending on at least one predefined and/or arbitrarily definable time and/or period of time and/or at least one predefined and/or arbitrarily definable kind, composition and/or amount of the transmitted-, processed-, stored- and/or output external data and/or their representations perceptible by the human sense organs.

A suitable fourth operating state (d) is the termination and/or interruption of the second operating state (b) for a predefined and/or arbitrarily definable period of time, preferably the termination and/or interruption of the communication connection between the first communication terminal and an external data source and/or the termination and/or interruption of the transmission, storage, processing and/or output of the external data at/by the first communication terminal and/or the change to and/or the new establishment of a communication connection which existed before the occurrence of the first operating state (a), the change to a predefined and/or arbitrarily definable further communication connection, the change to the operating state before the occurrence of the first operating state (a), the change to a predefined and/or arbitrarily definable further operating state and/or a predefined and/or arbitrarily definable action of the first communication terminal and/or interaction with further communication terminals and/or external data sources.

The connection can be interrupted automatically, after no activity has taken place at the computer for a certain period of time, for example 10 minutes. The computer can be

automatically switched off and/or switched to the stand-by mode and/or in a screen saver mode and/or to the original state (for example text processing or any user program).

Also a signal, for example an acoustic signal, can be output or an inquiry can be made to the user. In case of a reuse of an operational element of the computer the connection can also be interrupted automatically and/or changed to the original state.

In a further embodiment of the method the first operating state (a), the operating state before the occurrence of the first operating state (a), the second operating state (b), the third operating state (c) and/or the fourth operating state (d) and/or the time(s) and/or period(s) of time related to them and/or the kind(s), composition(s) and/or amount(s) of data are automatically detected, measured, processed, stored stationarily and/or non-stationarily and/or transmitted to one or several members of the communication system, preferably to external data sources and/or providers of the communication system and/or the detection, measurement, processing, storing and/or transmitting can be protected against intrusion and/or access by the user.

In a further advantageous embodiment socio-demographic data can be formed and/or assigned by qualifying, quantifying, categorizing and/or weighing of the operating state(s) (a), (b), (c) or (d) and/or the time(s) or period(s) of time related to them and/or the kind(s), composition(s) and/or amount(s) of data and/or predefined and/or arbitrarily definable external data, preferably data retrieved by the user, socio-demographic data like gender, age, residence, occupation and/or income, preferably data concerning the user behavior, data concerning hobbies, travel-, shopping behavior and/or consumption of music and/or media, very preferably psychographic user data, predefined and/or arbitrarily definable units and/or control codes, whereby said units, control codes and/or predefined

and/or arbitrarily definable combinations of said units and/or control codes are used to automatically control and/or account

- the operating state(s) (a), (b), (c) and/or (d)
- and/or the time(s) and/or period(s) of time related to them
- and/or the kind(s), composition(s) and/or amount(s) of the external data
- and/or the amount and/or kind of possible fees for the user, fee reductions, omitted fees, credited fees, refunded fees and/or equivalents, preferably cash benefits, payments in kind and/or services
- and/or the amount and/or kind of possible fees and/or equivalents for third parties, preferably suppliers and/or initiators of the transmitted external data.

For example, from a qualitative/quantitative encoding of the Internet access times while not being in operating state (b) according to the method (for example, 8:00 am to 8:00 pm = A, 8:00 pm to 8:00 am = B) and the contents of the accessed pages (erotic contents = X, other contents = Y) a control code can be formed or assigned, respectively, according to the kind of the transmitted data in the second operating state (b) according to the method.

Example: If the share of the preceding Internet use with the usage code BX is greater than 50% of the whole usage duration, commercials of Beate Uhse are transmitted in operating state (b); if the share is less than 50%, standard commercials are transmitted. The assignment may additionally take place depending on the time in which the operating state (b) according to the method occurs.

Example: If the share of the preceding Internet usage with the usage code BX is at least 25% of the whole usage time and the operating state (b) occurs between 8:00 pm and 4:00 am, commercials of Beate Uhse are transmitted in operating state (b); otherwise standard commercials are transmitted.

Using similar encoding methods all other parameters of the method can be controlled automatically in any combination. The operating state (b) can be activated according to the method between 8:00 am and 6:00 pm after a 10 minutes usage interruption and after another 10 minutes the computer can change into the operating state (d) (for example, stand-by mode). In the time between 10:00 pm and 6:00 am, the operating state (b) can be activated after a 2 minutes usage interruption and after another 20 minutes the computer can change into the operating state (d) (for example, switching off). In the second case the user could receive 5 free minutes as incentive, in the first case 10 minutes.

With a further suitable method the actual units and/or the units, that are retrieved during a predetermined and/or arbitrarily determinable period of time are output at the first communication terminal, preferably as cash values and/or time values and/or the control codes and/or the actions controlled by the control codes and/or the units can be output at the first communication terminal, preferably as cash values and/or time values and/or the units and/or control codes and/or the actions or values controlled by them can be changed after active and/or passive initiation by the user and/or by a predefined and/or arbitrarily definable use of the first communication terminal, stored stationarily and/or non-stationarily and/or transmitted to one or several members of the communication systems, preferably to external data sources and/or providers of the communication system.

For example, the user can see the display of the already collected free minutes during an operating state (b), for example 10 free minutes, and at any time receives the offer to receive 5 further free minutes by pressing a certain key. If the user presses the requested key, the input is - protected from user access - stored for example on a chip card or transmitted directly online to the provider. For the data or commercial spots, respectively, which have been transmitted during the operating state (b) preceding this input, increased costs are billed to the corresponding partners as the commercial spots have provably attracted the commercial receiver's attention.

In an embodiment, the kind of output, the frequency of output and/or intensity of output of the transmitted external data and/or their representations at the communication terminal are predefined and/or arbitrarily definable, are automatically recognized, processed, protected against user access and/or intrusion, stored stationarily and/or non-stationarily and/or are transmitted to one and/or several members of the communication system, preferably to external data sources and/or providers of the communication system. A TV set or a monitor can, in its state of delivery, be equipped with a window (split screen), or the size of an output window or the volume for commercials can be detected and serve for example as a basis for the price code.